

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
24 March 2005 (24.03.2005)

PCT

(10) International Publication Number  
**WO 2005/026576 A3**

(51) International Patent Classification<sup>7</sup>: **F16H 48/04**,  
B21J 5/02, B21K 1/26

Mark [CA/CA]; 486 Hewitt Circle, Newmarket, Ontario L3X 2H1 (CA). DORIGO, David [CA/CA]; 2104 Bloomfield Drive, Oakville, Ontario L6M 3W5 (CA). MU, Cheng [CA/CA]; 197 Vaughan Road, #203, Toronto, Ontario M6C 2M4 (CA). LI, Jianwen [CN/CA]; 62 Salem Avenue, Toronto, Ontario M6H 3C1 (CA).

(21) International Application Number:  
PCT/CA2004/001623

(74) Agents: IMAI, Jeffrey, T. et al.; Magna International Inc., 337 Magna Drive, Aurora, Ontario L4G 7K1 (CA).

(22) International Filing Date:  
15 September 2004 (15.09.2004)

(25) Filing Language: English

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

(30) Priority Data:  
60/503,009 15 September 2003 (15.09.2003) US

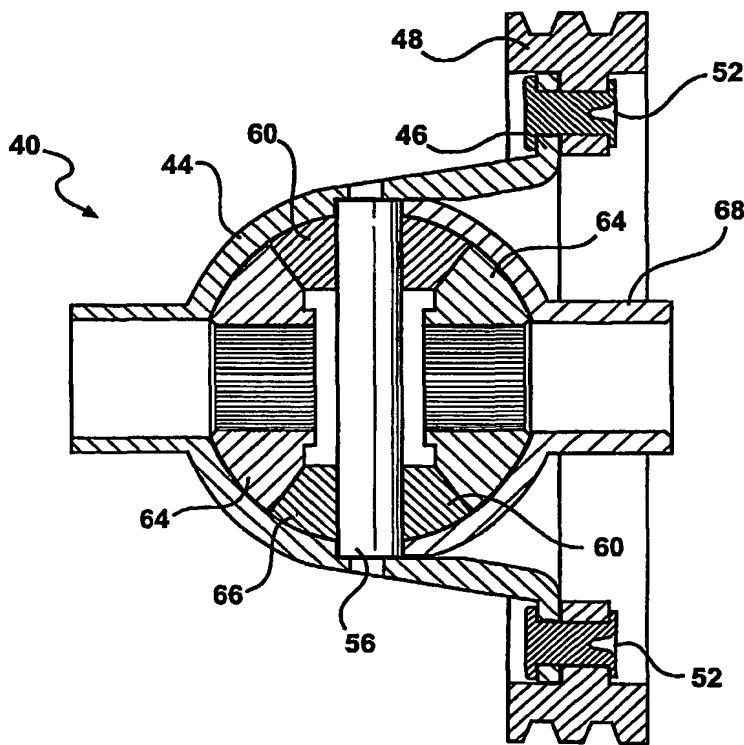
(71) Applicant (*for all designated States except US*): TESMA INTERNATIONAL INC. [CA/CA]; 1000 Tesma Way, Concord, Ontario L4K 5R8 (CA).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): PASCOE, David,

[Continued on next page]

(54) Title: DIFFERENTIAL WITH DIE FORMED HOUSING



(57) Abstract: A differential comprises a die formed housing having a spherical inner volume. A subassembly is disposed in the spherical inner volume of the housing. A die formed cover is fixedly attached to the die formed housing for enclosing the subassembly with the housing. A ring gear is connected to the housing for transmitting torque from a prime mover through the differential. The differential is both light and strong and reasonably inexpensive to manufacture.



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*

**(88) Date of publication of the international search report:**

9 June 2005